

The Examiner rejected claims 95-99, 103-106, 147-150, 156 and 159 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,415,816 to Buazza et al. (hereinafter Buazza'816) in view of U.S. Patent No. 4,576,766 to Baskerville et al. (hereinafter "Baskerville"). Applicant respectfully disagrees with these rejections.

In order to reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 USPQ 173, 177-178 (C.C.P.A. 1967). To establish a *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03.

Applicant's amended independent claim 95 is directed to a system comprising:

"a first mold member having a casting face and a non-casting face;

a second mold member having a casting face and a non-casting face, the second mold member being adapted to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity;

a lens forming composition adapted to be disposed within the mold cavity during use, comprising:

a monomer that cures by exposure to activating light to form the eyeglass lens during use;

an ultraviolet light absorbing compound that substantially absorbs light having a wavelength below about 380 nm during use;

a photoinitiator that initiates curing of the monomer in response to being exposed to activating light having a wavelength greater than about 400 nm; and

a first light generator adapted to generate and direct activating light at a wavelength greater than about 400 nm toward at least one of the mold members to cure the lens forming composition and to form the eyeglass lens during use.”

Support for the amendment is found in Applicant’s specification, which states:

“The use of activating light of the appropriate wavelength preferably prevents the lens from darkening during the curing process. Herein, “darkening” means becoming at least partially non-transparent to the incoming activating light such that the activating light may not significantly penetrate the lens forming composition. Photochromic compounds may cause such darkening. Ultraviolet absorbing compounds present in the lens forming composition may prevent activating light having a wavelength substantially below about 380 nm from penetrating into the lens forming composition. When treated with activating light containing light with wavelengths in the ultraviolet region, e.g. light with wavelengths below about 380 nm, the ultraviolet absorbing compounds darken, preventing further ultraviolet activating light from penetrating the lens forming composition.” (Specification, pages 159-160, lines 19-28 and 1-3, respectively)

“In an embodiment the above-described lens forming composition, where the light absorbing compound absorbs ultraviolet light, may be treated with activating light having a wavelength above about 380 nm to activate the photoinitiator. Preferably activating light having a wavelength substantially between about 380 nm to 490 nm is used. By using activating light above about 380 nm the darkening effect caused by the ultraviolet absorbing compounds may be avoided. The activating light may penetrate into the lens forming composition, initiating the polymerization reaction throughout the composition. A filter which blocks light having a wavelength that is substantially below about 380 nm may be used to prevent the ultraviolet absorbing compounds from darkening” (Specification, Page 160, lines 13-21).

The Examiner states, “Buazza et al. also teach the first light generator to comprise a fluorescent light source capable of emitting light at about 385 nanometers.” (Office Action mailed October 10, 2001, page 4). Applicant submits, Buazza does not teach a light source emitting light having a wavelength greater than about 400 nanometers. Buazza states,

“The lamps 40 generate an intensity at the lamp surface of approximately 4.0 to 7.0 mW/cm² of ultraviolet light having wavelength between 300 and 400 nm,

which light is very uniformly distributed without any sharp discontinuities throughout the reaction process. Such bulbs are commercially available from Sylvania under the trade designation Sylvania Fluorescent (F158T/2052) or Sylvania Fluorescent (F258T350BL/18")GTE. As noted above, ultraviolet light having wavelengths between 300 and 400 nm is preferred because the photoinitiators according to the present invention, preferably, absorb most efficiently at this wavelength and the mold members 78, preferably, allow maximum transmission at this wavelength" (Column 14-15, lines 64-68 and lines 1-9, respectively)

Applicant submits that the combination of Buazza'816 and Baskerville do not appear to teach or suggest all the features of claim 95.

Applicant's amended independent claim 159 is directed to a system for making ophthalmic eyeglass lens that includes, but is not limited to, the features:

"a lens forming composition configured to be disposed within the mold cavity during use, comprising:

a monomer that is curable in the mold cavity by exposure to activating light to substantially form the eyeglass lens;

a photochromic compound that absorbs at least a portion of the activating light in a first range during at least a portion of the curing of the monomer;

Support for Applicant's feature of an eyeglass lens including, but not limited to, a photochromic compound, is found in Applicant's Specification, which states,

"Photochromic pigments which have utility for photochromic eyeglass lenses typically absorb activating light strongly and change from an inactivated state to an activated state when exposed to activating light." (Specification, lines 20-22)

"An eyeglass lens formed using the lens forming composition of the present invention is not only applicable for use as a prescription lens and may be used for a non-prescription lens as well. Particularly, such a lens may be used in sunglasses. Advantageously, photochromic sunglass lenses would remain light enough in color to allow a user to see through them clearly while at the same

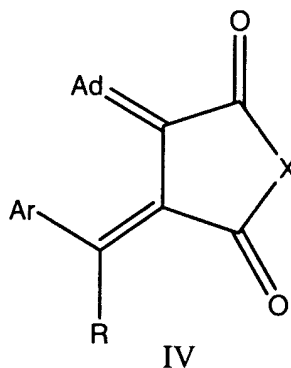
time prohibiting ultraviolet light from passing through the lenses.” (Specification, page 168, lines 1-6).

The Examiner states, “the Baskerville reference does teach the precursor to be a photochromatic compound, lines 28-29, 43-48.” (Office Action, page 2). Applicant respectfully disagrees with this rejection.

Applicant submits that Baskerville appears to teach that the precursor changes color when exposed to ultraviolet light. Baskerville, however, appears to teach that the precursors are not acceptable for use in photochromic eyeglass lenses. Baskerville states:

“a series of photochromic compounds termed “fulgide” and fulgimides” which are resistant to fatigue is disclosed in British patent specification No. 2,002, 752. However, the compound described in this British specification cannot be used for applications where darkening in sunlight is required since, although they colour in UV light, they revert to a colourless form in white light.” (Column 1, lines 31-34).

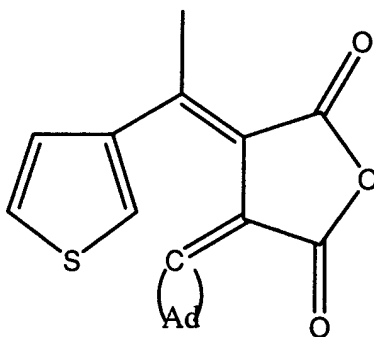
British Patent Specification No. 2,002, 752 to Heller (herein “Heller’752) appears to teach compounds that are the same as compound V in Baskerville. For example, Heller’752 describes a compound having the general formula (IV):



wherein X represents oxygen or $>NR_5$, R_6 being hydrogen or an alkyl aryl or aralkyl group; R represents hydrogen or an alkyl, aryl, aralkyl or heterocyclic group; Ar represents a 3-furyl, 3-thienyl group... (See Pages 1-2, lines 90-95 and 1-4 respectively).

Baskerville appears to teach the same compound as IV, wherein Ar represents a 3-theinyl group, R represents and alkyl group and X equals an oxygen atom. Baskerville states,

"Some of the specific compounds within the general formula (I) above that we have demonstrated can be incorporated in the manner described above are set out below."



(V)" (Column 4, lines 1-24).

Applicant submits that Baskerville does not appear to teach or suggest the use of photochromic compounds in a lens forming composition.

In addition, Baskerville appears to teach the use of heliochromic compound precursors, such as structure V, that are subsequently converted to heliochromic compounds after the lens is thermally cured. Baskerville states:

"The method used to form the article determines the method used to convert the precursor to the sunlight reactive form."
(Baskerville, col. 3, lines 20-23)

"In the case of cast materials the precursor may not be converted in situ into a heliochromic compound at the temperatures prevailing during the curing cycle. In the case of CR39 it is necessary to operate a curing temperature under 100 °C and a substantially colourless or slightly yellow article is generally produced

which can be rendered heliochromic by a post-treatment, e.g. irradiation from a UV source. “

(Baskerville, col. 3, lines 12-20)

“In the case of an article made from the material sold by P.P.G. Ltd. under trade name CR39, the precursor can be incorporated into the monomer prior to casting the article. The conversion to the coloured form is then carried out after curing the cast lens.”

(Baskerville, col. 3, lines 25-29)

Whether or not “a particular combination might be ‘obvious to try’ is not a legitimate test of patentability.” *Id.* at 1599, citing *In re Geiger*, 815 F.2d 868, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987) and *In re Goodwin*, 576 F.2d 375, 377, 198 USPQ 871, 881 (CCPA 1981). Consequently, it is not permissible for the Examiner to “use hindsight reconstruction to pick and chose among isolated disclosures in the prior art to deprecate the claimed invention.” *Id.* at 1600.

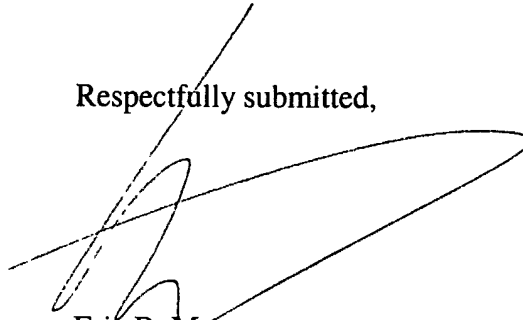
As such, Applicant submits that Baskerville in combination with Buazza’816 does not appear to teach or suggest all of the features of claim 159.

C. Summary

Based on the above, Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant respectfully requests a two-month extension of time. If any further extension of time is required, Applicant hereby requests the appropriate extension of time. A Fee Authorization in the amount of \$200.00 is enclosed for the extension of time fee. If any other fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley, Rose & Tayon, P.C. Deposit Account Number 50-1505/5040-03206/EBM

Respectfully submitted,



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Strikethrough Version of the Amended Paragraphs

Ultraviolet photoinitiators which have utility in the present invention may include: 1-hydroxycyclohexylphenyl ketone commercially available from Ciba Additives under the trade name of Irgacure 184; mixtures of bis(2,6-dimethoxybenzoyl) (2,4,4-trimethyl-~~phenyl~~pentyl) phosphine oxide and 2-hydroxy-2-methyl-1-phenyl-propan-1-one commercially available from Ciba Additives under the trade name of Irgacure 1700; mixtures of bis(2,6-dimethoxybenzoyl) (2,4,4 trimethyl-~~phenyl~~pentyl) phosphine oxide and 1-hydroxycyclohexylphenyl ketone commercially available from Ciba Additives under the trade names of Irgacure 1800 and Irgacure 1850; 2,2-dimethoxy-2-phenyl acetophenone commercially available from Ciba Additives under the trade name of Irgacure 651; 2-hydroxy-2-methyl-1-phenyl-propan-1-one commercially available from Ciba Additives under the trade names of Darocur 1173; mixtures of 2,4,6-trimethylbenzoyl-diphenylphosphine oxide and 2-hydroxy-2-methyl-1-phenyl-propan-1-one commercially available from Ciba Additives under the trade name of Darocur 4265; 2,2-diethoxyacetophenone (DEAP) commercially available from First Chemical Corporation of Pascagoula, Mississippi, benzil dimethyl ketal commercially available from Sartomer Company under the trade name of KB-1; alpha hydroxy ketone commercially available from Sartomer company under the trade name of Esacure KIP100F; 2-methyl thioxanthone (MTX), 2-chloro thioxanthone (CTX), thioxanthone (TX), and xanthone, all commercially available from Aldrich Chemical; 2-isopropyl thioxanthone (ITX) commercially available from Aceto Chemical in Flushing, New York; mixtures of triaryl sulfonium hexafluoroantimonate and propylene carbonate commercially available from Sartomer Company under the trade names of SarCat CD 1010, SarCat 1011, and SarCat KI85; diaryl iodonium hexafluoroantimonate commercially available from Sartomer Company under the trade name of SarCat CD-1012; mixtures of benzophenone and 1-hydroxycyclohexylphenyl ketone commercially available from Ciba Additives under the trade name of Irgacure 500; 2-benzyl-2-N,N-dimethylamino-1-(4-morpholinophenyl)-1-butanone commercially available from Ciba Additives under the trade name of Irgacure 369; 2-methyl-1-[4-(methylthio)phenyl]-2-morpholino propan-1-one

commercially available from Ciba Additives under the trade name of Irgacure 907; bis(n5-2,4-cyclopentadien-1-yl)-bis-[2,6-difluoro-3-(1H-pyrrol-1-yl) phenyl] titanium commercially available from Ciba Additives under the trade name of Irgacure 784 DC; mixtures of 2,4,6-trimethyl benzophenone and 4-methylbenzophenone commercially available from Sartomer Company under the trade name of EsaCure TZZT; and benzoyl peroxide and methyl benzoyl formate both available from Aldrich Chemical in Milwaukee, Wisconsin.

A preferred ultraviolet photoinitiator is bis (2,6 dimethoxybenzoyl) (2,4,4 trimethyl ~~phenyl~~pentyl) phosphine oxide, commercially available from Ciba Additives in Tarrytown, New York under the trade name of CGI-819. The amount of CGI-819 present in a lens forming composition containing photochromic compounds preferably ranges from about 30 ppm by weight to about 2000 ppm by weight.

Paragraph beginning on page 124, line 13.

Ultraviolet/visible light absorbing compounds which may be added to a normally ultraviolet/visible light transmissible lens forming composition include 2-(2H benzotriazole-2-yl)-4-(1,1,3,3 tetramethylbutyl)phenol and 2-hydroxy-4-methoxybenzophenone, both commercially available from Aldrich Chemical as well as mixtures of 2-[4-((2-hydroxy-3-dodecyloxypropyl)-oxy)-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine and 2-[4-((2-hydroxy-3-tridecyloxypropyl)-oxy)-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine commercially available from Ciba Additives under the trade name of Tinuvin 400, mixtures of poly (oxy-1,2-ethanediyl), α -(3-(3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl)-1-oxopropyl)- ω -hydroxy and ~~poly (oxy-1,2-ethanediyl),~~ poly(oxy-1,2-ethanediyl), α -(3-(3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl)-1-oxopropyl)- ω -(3-(3-(2H-benzotriazol-2-yl)-5-1,1-dimethylethyl)-4-hydroxyphenyl)-1-oxopropoxy) poly(oxy-1,2-ethanediyl) commercially available from Ciba Additives under the trade name of Tinuvin 1130. Other ultraviolet/visible light absorbers may include Tinuvin 328, Tinuvin 900, 2-(2 hydroxy-5-methyl-phenyl) benzotriazole, ethyl-2-

cyano 3,3-diphenyl acrylate, and phenyl salicylate.

Strike-though Version of the Amended Claims

95. (Amended) A system for making an ophthalmic eyeglass lens, comprising:

a first mold member having a casting face and a non-casting face;

a second mold member having a casting face and a non-casting face, the second mold member being adapted to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity;

a lens forming composition adapted to be disposed within the mold cavity during use, comprising:

a monomer that cures by exposure to activating light to form the eyeglass lens during use;

a an ultraviolet light absorbing compound that substantially absorbs light having a wavelength ~~in a first range~~ below about 380 nm during use;

a photoinitiator that initiates curing of the monomer in response to being exposed to activating light having a wavelength ~~in a second range during use,~~ greater than about 400 nm; and

a first light generator adapted to generate and direct activating light at a wavelength ~~in the second range~~ greater than about 400 nm toward at least one of the mold members to cure the lens forming composition and to form the eyeglass lens during use.

159. (Amended) A system for making an ophthalmic eyeglass lens, comprising:

a first mold member having a casting face and a non-casting face;

a second mold member having a casting face and a non-casting face, the second mold member being configured to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity;

a lens forming composition configured to be disposed within the mold cavity during use, comprising:

a monomer that is curable in the mold cavity by exposure to activating light to substantially form the eyeglass lens;

a ~~light absorbing~~ photochromic compound that absorbs at least a portion of the activating light in a first range during at least a portion of the curing of the monomer; and

a photoinitiator that activates a co-initiator after being exposed to at least a portion of activating light in a second range during curing, wherein the co-initiator activates curing of the monomer to form the eyeglass lens and wherein the co-initiator facilitates curing of the lens forming composition; and

a first light generator configured to generate and direct activating light at a wavelength in the second range toward at least one of the mold members to cure the lens forming composition and to form the eyeglass lens during use; and

~~a controller coupled to the first light generator, wherein the controller adjusts a dose of initiating light reaching the cavity as a function of the temperature of the lens forming composition during use.~~